

## Complete Design for Five-Pole in Line Elliptic Filter

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The complete design of a five-pole in line elliptic filter using TE/sub 113/ and TM/sub 012/ modes is presented. A multimodal variational method is used in order to determine all iris dimensions and positions. Simultaneous TE / TE and TE / TM mode couplings between the dual and triple mode cavities are provided by a single displaced rectangular iris. A filter has been designed and realized using our theoretical iris dimensions (central frequency: 12.57 GHz and bandwidth 47 MHz). The required and experimental responses are in very good agreement.

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